



Epsilon Theory

Notes From the Field

July 7, 2017



To make a prairie it takes a clover and one bee,
One clover, and a bee,
And revery.
The revery alone will do,
If bees are few.

— Emily Dickinson (1830 – 1886)

**I've said it before, and I'll say it again.
Emily Dickinson is a total badass.**

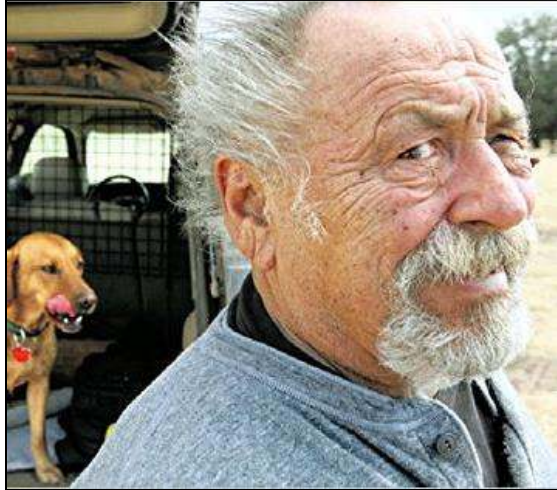
When a livestock farmer is willing to “practice complexity” — to choreograph the symbiosis of several different animals, each of which has been allowed to behave and eat as it evolved to — he will find he has little need for machinery, fertilizer, and, most strikingly, chemicals. He finds he has no sanitation problem or any of the diseases that result from raising a single animal in a crowded monoculture and then feeding it things it wasn't designed to eat.

— Michael Pollan, *The Omnivore's Dilemma: A Natural History of Four Meals* (2006)

In modern farming and in modern investing, we have become prisoners of the monoculture. It's efficient. It's necessary for a mass society of ever-increasing Desire. And yet ...



Oh, and one more thing. In the investment monoculture, you're not the farmer.

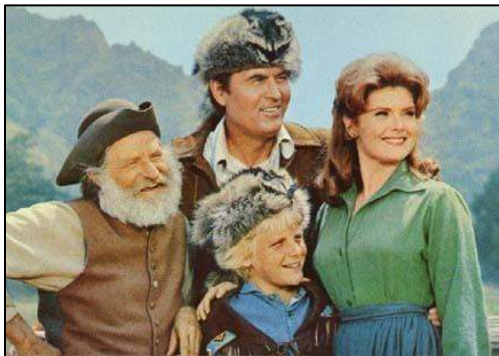


One thing that has gone wrong in America is the general acceptance of bad ham.

— **Jim Harrison (1937 – 2016)**

After gaining widespread fame as an explorer and “Indian fighter” during the Revolutionary War (yes, that used to be a profession, and a respected one), Daniel Boone earned his living in the Kentucky wilderness by producing what was known as bear bacon. It wasn’t “bacon” as we know it today, which typically comes from the sides and bellies of pork. Instead, Boone would take the whole bear and portion it into large hunks of meat that were brined and smoked. Living out of a lean-to shelter, he and his family hunted the bears with the help of tracking hounds. They soaked the meat in handmade barrels filled with a brine of water, salt, and sugar. They got the salt from mineral licks, and they got sugar by tapping the sweet sap from maple trees. Once the meat was brined, it was smoked and loaded onto keelboats headed up the Ohio River. Riding along with the meat were barrels of lard, rendered down from bear fat, as well as stretched and dried bear hides. All of it was sold in the eastern settlements. In one particularly productive season, Boone brought to market the meat and by-products of 155 black bears.

— **Steven Rinella, “First Catch Your Bear: Recipe for Smoked Black Bear Ham,” *Cured* v.1, Fall 2016**



I had a coonskin cap when I was a wee lad, and I can still sing the Daniel Boone theme song. Not sure I can imagine Patricia Blair boiling down bear fat and living in a lean-to, any more than I can imagine Fess Parker being an “Indian fighter”. I mean ... the bad Indians, sure, but Daniel Boone was a great friend to the good Indians like Mingo. Right?



Up on the Ft. Peck Reservation
(Assiniboine and Sioux)
just as I passed two white crosses
in the ditch I hit a fledgling meadowlark,
the slightest thunk against the car's grille.
A mean minded God
in a mean minded machine, offering
another ghost to the void to join the two
white crosses stabbing upward in the insufferable
air. Wherever we go we do harm, forgiving
ourselves as wheels do cement for wearing
each other out. We set this house
on fire forgetting that we live within.

— **Jim Harrison, “To a Meadowlark” (2008)**



Of all the occupations by which gain is secured, none is better than agriculture, ... none more becoming to a free man.

— Cicero (106 – 43 BC)

Men are not so much the keepers of herds as herds are the keepers of men.

— Henry David Thoreau, *Walden* (1854)

The land is ours. We are the land's.



Robert Frost wrote a similar line to lead off a patriotic anthem (“The Gift Outright”), most famously delivered at JFK’s inauguration when he was 87 years old. The poem rings poorly to the modern ear. Too jingoistic. Too rah-rah. But there’s a deeper meaning, I think, whether Frost intended it or not. The land is ours. There is a freedom that comes from working *one’s own land*, a groundedness — in the truest sense of the word — that was the foundation of Roman civilization and the republican virtues that inspired Jefferson, Madison, Hamilton, and the rest of the Founders gang.

But the land owns us, too. That encompasses nationalism and patriotic duty, for sure, which is how I think Frost meant it. It also encompasses civic and social duty, which is how I mean it. This is the price of civilization, that we allow ourselves to be the land's. It's a price worth paying.

Regular *Epsilon Theory* readers may know that I'm originally from Alabama but now live out in the wilds of Fairfield County, Connecticut. Politically this is a failed state, but it's still a beautiful one, and we've had nothing but happiness raising our four daughters here on a “farm” of 44 acres. I put that word in quotations because although we have horses and sheep and goats and chickens and bees, my grandfather — who owned a pre-electrification, pre-refrigeration, pre-pasteurization dairy farm in Alabama during the 1920s and 1930s — would surely have a good belly laugh at the notion of calling this a “farm”. But it's a farm to us, and it's been the bedrock for how we've educated our girls, who along with their mother do every bit of the work required to keep these animals alive (except for the bees, which are my thing, and anything that requires using the tractor). There are lessons from training a mustang to take a saddle, from shearing a sheep, from watching how goats defend the weak and how chickens torture the weak ... lessons that have made my daughters strong and wise way beyond their years ... lessons that you can't get anywhere else but a farm.

It's been a learning experience for me, too, of course. The dilettante farmer has been a stock comedic character since Cicero's day, and Eddie Albert on *Green Acres* is a farming savant compared to me. One of the nice things about the land, though, is that it doesn't hold a grudge. It forgives. Stick with it long enough and you can start figuring out the rhythms, or at least injure yourself less frequently. Plus, in case I wasn't clear earlier, this is freakin' Fairfield County, Connecticut. I've installed a really excellent wifi router in my barn so I can download instructional videos on, say, replacing the oil filter on my tractor. I expect Amazon Prime drone delivery service for said filter to start up any day now. And if all else fails it's a 10-minute drive to a couple of really good bars where I can nurse my wounded pride with some artisanal Mezcal and whatever locally-sourced amuse-bouche the chef has whipped up that day. I mean, this isn't exactly *Grapes of Wrath* material.

By the way, the joke in that last paragraph for farming cognoscenti is how easy it is to change an oil filter on a modern tractor. It's a four-inch canister that pokes out from the engine. You literally unscrew it by hand ("remember, lefty-loosey!" says the instructional video, clearly designed for dilettante Team Elite tractor owners like me) and screw the new one on tight. Maybe put a little fresh oil in the new filter before attaching if you wanna show off a bit. But, yeah, that's all it is.

Still, I have learned a few things over the years from the farm and its animals, and they've helped me to become a better investor. Those are the notes from the field that I want to share in this *Epsilon Theory* letter.

#1: Fingernail Clean

Fresh eggs are, in fact, one of the best things in life, and they (almost) make up for the necessity of dealing with the evil reptilian brain of the modern-day chicken. A fresh egg is notable for both its yolk (an orange-yellow that seems to glow, not the flat yellow-yellow you get in a store-bought egg) and its white (the fresher the albumen, the greater its coherence, so that you can, for example, poach a very fresh egg without putting vinegar in the water). A fresh egg is also notable for the fact that, depending on where it was laid and when it was collected, it may have dried chicken poop on the shell.

Now an eggshell is semi-permeable, and a fresh eggshell has a thin anti-bacterial protective layer called the "bloom", so you don't want to soak it in soapy water, or really any water at all. You can use an enzymatic egg wash to loosen the "dirt", but really all you need to do is moisten the spot and scrape it with your fingernail until it's clean. Not scrubbed. Not pristinely clean. Just fingernail clean. That's really the optimal outcome.

Here's another truth about fresh eggs: you don't need to refrigerate them. They'll keep for a month just sitting out on your kitchen counter. They don't rot. They don't start to smell. They don't serve as a Petri dish for salmonella or some other dread bacterium. Seriously.

So you don't have to refrigerate your fresh eggs. But if you scrub your eggs all nice and perfectly clean, removing the anti-bacterial bloom layer in the process, then you have to refrigerate them. Similarly, if you start refrigerating an egg, then you have to keep refrigerating it. You can't go back and forth.

Of course, you can't scrape eggs fingernail clean on an industrial scale, and there really are dread diseases running rampant in every industrial protein monoculture facility, whether it's for eggs or chickens or cows or pigs or whatever, which is why antibiotics are constantly fed to these animals. You can't be certain that industrially produced eggs will get to a buyer within a month, and you certainly can't be certain they'll be kept at room temperature over that span. So you wash the hell out of the industrially produced egg, and you introduce it to refrigeration as soon as you can for storage and transport. That's why the spotless, refrigerated egg is all we know. It's necessary for effective and profitable industrial production.

But because the spotless, refrigerated egg is all we know, we believe anything to the contrary must be a defective and potentially diseased egg. Not a better egg, which is the truth, but a worse egg. A bad egg. You see this all the time when you give people fresh eggs. They're disturbed if the eggs aren't

housed in an egg carton and cool to the touch. They get freaked out if the eggs aren't perfectly, and I mean perfectly, clean.

We have been well and truly trained to accept the Industrially Necessary Egg as the Good Egg.

It's the same with all dairy products. It's the same with all industrially produced proteins. It's the same with all industrially produced anything.

So many ideas that we take as immutable truths of safety or goodness, whether those truths concern the food we eat or the stocks we buy, are not truths at all. They are *conveniences*, and not conveniences for us, but for the sellers of the food we eat or the stocks we buy.

Do you really think that an ETF (and let's recall what those letters stand for — an Exchange Traded Fund) was designed for *your* benefit? I wrote the following in September, 2015 in an *Epsilon Theory* note called "[Season of the Glitch](#)". It bears repeating.

The key letter in an ETF is the F. It's a Fund, with exactly the same meaning of the word as applied to a mutual fund. It's an allocation to a basket of securities with some sort of common attribute or factor that you want represented in your overall portfolio, not a fractional piece of an asset that you want to directly own. Yes, unlike a mutual fund you CAN buy and sell an ETF just like a single name stock, but that doesn't mean you SHOULD. **Like so many things in our modern world, the exchange traded nature of the ETF is a benefit for the few (Market Makers and The Sell Side) that has been sold falsely as a benefit for the many (Investors).** It's not a benefit for Investors. On the contrary, it's a detriment. Investors who would never in a million years consider trading in and out of a mutual fund do it all the time with an exchange traded fund, and as a result their thoughtful ETF allocation becomes just another chip in the stock market casino. This isn't a feature. It's a bug.

More recently, both [Rusty Guinn](#) and I have been hammering on this point in [Epsilon Theory notes](#): ETFs are the epitome of active trading. They exist because we can't help ourselves. We demand the ability to actively manage our portfolio on a minute-by-minute, second-by-second basis. We're addicted to the "news" on CNBC and [the rush we get from playing the hand](#) and the false sense of security we derive from the immediate liquidity and the false satisfaction we derive from making the decision ourselves. We fancy ourself to be a macro investor — able to select this sector or that sector, this geography or that geography, this theme or that theme, this asset class or that asset class — and that's why ETFs exist. **We've been sold the *idea* that we're excellent macro investors, just as smart and observant and on top of things as all those fat cats we read about.** We've been sold the *idea* that it's a Good Thing for us to "take control" of our portfolio and give the boot to all of those "so-called experts" with their "out of control fees".

It's a powerful idea because, like all powerful ideas, there's more than a little truth to it. Fees are often too high. Experts and advisors are often just marketing skills. That's all true. But what's also true is that you are *not* an excellent macro investor. Sorry. And more to the point, there's *no need* for you to be an excellent macro investor and still achieve your investment goals. But so long as we allow ourselves to be well and truly trained into believing that the Industrially Necessary Financial Innovation is the Good Financial Innovation, it's harder to achieve those goals. Like a store-bought egg, ETFs are occasionally necessary, and always convenient. But they can't hold a candle to a fingernail clean fresh egg.

#2: Structure Is a Cruel Master

I like animals that pay the rent. It's why I put up with chickens and sheep, both of whom are just about the stupidest and most selfish animals on this green earth. And it's why I'm particularly interested in bees, because honey is the best rent I collect. Honey is another food product where, like eggs, the necessities of industrial production have led to the general acceptance of bland honey as good honey. In truth, the best tasting and healthiest honey will have bits of raw pollen in it, maybe a bit of wax, maybe — brace yourself — other impurities. But that's not my point in this note from the field. My point here is about the particular genius of bees, which is that they are hard-wired to create amazing structure out of complete chaos. Usually that genius results in a triumph of both social and physical engineering, but occasionally it goes awry. Ditto for humans.

I use a top-bar hive design for my bees, rather than the far more common Langstroth hive design. The top-bar hive essentially mimics a hollow log, providing nothing more than a flat ceiling and some holes in the "log" for the bees to fly in and out. It's completely up to the bees how they build their combs within the "log", and I've got a plastic window on one side of the structures so I can see their progress. Think of it like an ant farm for grownups. Alternatively, the Langstroth design forces the bees to build their combs in a deterministic manner, providing pre-waxed, precisely distanced slats within tight boxes that can easily be stacked and moved. The Langstroth hive is a wonderful design for transporting bees for commercial pollination services, and similarly effective for maximizing honey production and extraction. Neither of which I care about.

What I do care about, beyond collecting the occasional honey comb, is understanding, experiencing, and learning from the bees, and that's what a top-bar hive allows me to do. The downside to a top-bar hive is that it doesn't provide any "guardrails", to use a management term du jour, for the bees. Plus, any honeycombs you collect are likely to have a few, or more than a few, larvae in the comb, making it more of a challenge to extract the honey without the yucky stuff. But both of these negatives are positives in my book. I'm not trying to get a ton of honey, and I want the responsibility of identifying and rectifying any structural wrongs that might develop in the hive. Or so I thought.

My first year with a top-bar hive, I thought it would be helpful if I gave my new colony a bit of a head start by placing some pre-waxed Langstroth hive sheets (basically a wax sheet held together with thin strands of wire) in the bottom of their "log". Sure enough, the bees quickly harvested the wax and used it for their new combs, leaving the thin wires at the bottom of the hive. Mission accomplished!

One month later, though, and my hive was a mess. **The bees didn't physically harvest the thin metal wires like they had the pliable wax, but they had harvested the *idea* of the wires.** You see, bees will use any structure as a template for their structure-building instincts. The reason a top-bar hive works is that it mimics a *hollow* log. Any structure within the log, any at all, even a few wires jumbled at the bottom, will be seized on as a structural framework. So instead of only getting the classic honeycomb built from the ceiling down in beautiful straight lines with exactly $\frac{3}{4}$ of an inch between combs, I also got a blob comb built from the floor of the hive up. To make matters worse, I had made the newbie mistake of not ensuring that my full hive, the "log" itself, was perfectly level when I set it up, and as a result the ceiling-built combs were listing downhill. Put it all together, and I got the disaster structure: *cross-comb*, where your hive becomes a maze of interlocked combs and lobes, impossible to interact with without destroying big chunks of the hive and killing large numbers of bees. If you've ever

mistreated an engine to the point where it seized up, fusing into a solid block of metal, then you have a good notion of what I had done to this hive.

And here's the kicker. I knew this was happening (remember the plastic window so I can see into the hive), and I still did nothing to stop it. Or rather, I suspected that something bad was happening, and rather than dig in and kill a few bees and wreck a small amount of comb in order to scrape out the wires and get the hive on the right track, I didn't want to pay that price. There's no way, I kept telling myself, that these bees would become so utterly focused on building around a few metal wires that *obviously* weren't part of the master plan and *obviously* didn't lead to a properly built hive. I was wrong.

So what are my lessons here?

Investors are like these bees, determined to find structure — i.e., meaning — in anything the beekeeper or nature gives them. They will find structure and meaning even if the beekeeper intended no such thing. They will find structure and meaning even if what they build is obviously flawed. They will keep building on this flawed foundation for as long as they are physically able to do so.

The architectural design for a beautiful end result — a productive hive or a productive portfolio or a productive market — is *nowhere to be found* in a bee's brain or a human's brain. What is in our brains is an algorithm — a process — where we take meaning from found structures and we build on them. And build and build and build. That's what the bee and the human are biologically evolved to do, and that's exactly why the bee and the human are two of the most successful species on the planet. Our algorithms work. ***For both bees and humans, our process is our genius.*** And it usually ends up as a grand success. Unless, of course, we've been given a flawed foundation. Unless, of course, we're finding structure and meaning in a bunch of wires on the floor of the hive.

Central bankers are like me, the Hamlet-esque, dithering newbie beekeeper who left a destructive structure in the hive but can't bring himself to accept that fact. Central bankers *absolutely* think of themselves as beekeepers. They *absolutely* believe that they, and only they, can keep the global economy from going off the rails. They *absolutely* believe that they provided the necessary materials to keep the hive alive in 2009 and 2012, albeit admittedly with a bit of detritus left behind in the form of massive balance sheet reserves. They absolutely do NOT believe that removing these reserves will be a big deal, so long as they keep saying the right words and go very very slowly. **They are wrong.**

To use another pastoral reference, what's good for the goose is good for the gander. **If Bernanke was right about the portfolio rebalance channel on the way up,** he's going to be right about the portfolio rebalance channel on the way down. What's the portfolio rebalance channel? It's the whole entire rationale for QE, the whole entire reason that **central banks now own \$14 TRILLION worth of stuff.** By buying their fixed income stuff, central banks push down the yield on ALL fixed income stuff. They make ALL investors take on *more* risk than they otherwise would. The safe-as-houses U.S. Treasury buyer has to buy mortgages to get the same portfolio return as before. The cautious mortgage buyer has to buy corporate debt to get the same portfolio return as before. The corporate debt buyer has to buy equities to get the same portfolio return as before. It's turtles all the way down. And it will be turtles all the way up as ALL investors are forced to take on *less* risk than they otherwise would.

This algorithm — what I've called in the past the **Narrative of Central Bank Omnipotence**, or the idea that Central Banks are responsible for all market outcomes — is now well and truly implanted in the human brain. Maybe it's not in your brain. Good for you (although I don't believe you). But would you

deny that it's implanted in enough human brains to make all the difference in market behaviors? I don't know whether Bernanke was right about the portfolio rebalance channel. And I don't care! What I care about is that enough people *believe* that the portfolio rebalance channel worked, just like enough people *believe* that Draghi's Outright Monetary Transaction program worked, so that it DOES work. In either direction.

To make a prairie it takes a clover and a bee. Plus revery. Belief.

And belief alone will do.

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